AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the

application:

LISTING OF CLAIMS:

1. (currently amended): An image processing apparatus, which uses input tone data for a

first color space image to generate reproduction data that express a halftone for an image,

comprising:

a color converter, for performing an interpolation process, for referring to a color

conversion table to convert said input tone data for said first color space into tone data for a

second color space; and

a halftone processor for converting said tone data for said second color space into image

reproduction data, by referring to a halftone table that shows the correlation of said tone data for

said second color space and said image reproduction data,

wherein a gamma characteristic A, for said input tone data for said first color space~~, for~~

and an output density relative to a tone value for each brightness level of an image, corresponds

to a gamma characteristic B~~,~~ for said halftone table~~, for~~ and an output density relative to a tone

value for each brightness level of an image.

2. (currently amended): ~~An~~ The image processing apparatus according to claim 1,

wherein said first color space is a color space for an additive mixture of color stimuli, and said

second color space is a color space for a subtractive mixture of color stimuli; and wherein a

difference, for said gamma characteristic A, between a ratio for a first input tone area of the

change of said output density to the change of ~~an~~ a first input tone value, and a ratio for a second

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input tone area of the change of said output density to the change of ~~an~~ a second input tone value, which is lower than said first input tone value for said first input tone area, is the same as a difference, for said gamma characteristic B, between a ratio for a third input tone area of the change of said output density to the change of ~~an~~ a third input tone value, and a ratio for a fourth input tone area of the change of said output density to the change of ~~an~~ a fourth input tone value, which is higher than said third input tone value for said third input tone area.

3. (currently amended): ~~An~~ The image processing apparatus according to claim 1, wherein said first color space is a color space for a subtractive mixture of color stimuli, and said second color space is a color space for a subtractive mixture of color stimuli; and wherein a difference, for said gamma characteristic A, between a ratio for a first input tone area of the change of said output density to the change of ~~an~~ a first input tone value, and a ratio for a second input tone area of the change of said output density to the change of ~~an~~ a second input tone value, which is lower than said first input tone value for said first input tone area, is the same as a difference, for said gamma characteristic B, between a ratio for a third input tone area of the change of said output density to the change of ~~an~~ a third input tone value, and a ratio for a fourth input tone area of the change of said output density to the change of ~~an~~ a fourth input tone value, which is lower than said third input tone value for said third input tone area.

4. (original): An image processing apparatus according to claim 2, wherein said color space for said additive mixture of color stimuli is either an RGB color space, an sRGB color space, a CIEXYZ color space or a CIELab color space, and said color space for said subtractive mixture of color stimuli is a CMYK color space.

5. (original): An image processing apparatus according to claim 3, wherein said color space for said subtractive mixture of color stimuli is a CMYK color space.

6. (currently amended): ~~An~~ The image processing apparatus according to claim 1, wherein said first color space is either an RGB, an sRGB or a CIELab color space, and said second color space is a CMYK color space; wherein, for said gamma characteristic A, a ratio in a first input tone area for the change in said output density to the change in ~~an~~ a first input tone value is smaller than a ratio in a second input tone area for the change in said output density to the change in ~~an~~ a second input tone value, which is lower than said first input tone value in said first input tone area; and wherein, for said gamma characteristic B, a ratio in a third input tone area for the change in said output density to the change in ~~an~~ a third input tone value is greater than a ratio in a fourth input tone area for the change in said output density to the change in ~~an~~ a fourth input tone value, which is lower than said third input tone value in said third input tone area.

7. (currently amended): ~~An~~ The image processing apparatus according to claim 1, wherein said first color space is a first CMYK color space, and said second color space is a second CMYK color space; wherein, for said gamma characteristic A, a ratio in a first input tone area for the change in said output density to the change in ~~an~~ a first input tone value is smaller than a ratio in a second input tone area for the change in said output density to the change in ~~an~~ a second input tone value, which is lower than said first input tone value in said first input tone area; and wherein, for said gamma characteristic B, a ratio in a third input tone area for the change in said output density to the change in ~~an~~ a third input tone value is smaller than a ratio in

a fourth input tone area for the change in said output density to the change in ~~an~~ a fourth input

tone value, which is lower than said third input tone value in said third input tone area.

8. (original): An image processing apparatus according to claim 1, wherein said gamma

characteristic A and said gamma characteristic B have the same non-linear characteristic.

9. (original): An image processing apparatus according to claim 1, wherein said gamma

characteristic A and said gamma characteristic B have the same S-shaped characteristic.

10. (currently amended): ~~An~~ The image processing apparatus according to claim 1,

wherein said first color space is a CIELab color space and said second color space is a CMYK

color space, and wherein a gamma characteristic of L* ~~is~~ in said first color space is the same as a

gamma characteristic of L*of said halftone table.

11. (original): An image processing apparatus according to claim 1, wherein said first

color space is a CIELab color space or CIEXYZ color space, and said second color space is a

CMYK color space.

12. (original): An image processing apparatus according to claim 1, wherein said color

conversion table includes a discrete relationship between said input tone data for said first color

space and said tone data for said second color space; and wherein said halftone table includes a

continuous relationship between said input tone data for said first color space and said tone data

for said second color space.

13. (currently amended): ~~An~~ The image processing apparatus for generating, using input

tone data for an RGB color space, image reproduction data that express tones by using a plurality

of printing dots comprising:

a color converter, for performing an interpolation process, for referring to a color

conversion table to convert said input tone data for said RGB color space into tone data for a

CMYK color space; and

a halftone processor for converting said tone data for said second color space into image

reproduction data, by referring to a halftone table that shows the correlation of said tone data for

said CMYK color space and said image reproduction data,

wherein, for a gamma characteristic A for an output density relative to a tone value of

said input tone data for said RGB color space, a difference between a ratio for a first RGB tone

area of the change of said output density to the change of ~~an~~ a first input tone value, and a ratio

for a second RGB tone area of the change of said output density to the change of ~~an~~ second

input tone value, which is lower than said first input tone value for said first input tone area, is

the same as a difference, for said gamma characteristic B of said halftone table, between a ratio

for a first CMYK input tone area of the change of said output density to the change of ~~an~~ a third

input tone value, and a ratio for a second CMYK input tone area of the change of said output

density to the change of ~~an~~ a fourth input tone value, which is higher than said third input tone

value for said first CMYK input tone area.

14. (original): An electrophotographic apparatus comprising:

an image processing apparatus according to claim 1; and

a print engine for printing an image in accordance with image reproduction data.

15. (original): An electrophotographic apparatus comprising:

an image processing apparatus according to claim 13; and

a print engine for printing an image in accordance with image reproduction data.

16. (currently amended): ~~An~~ The electrophotographic apparatus according to claim 14,

wherein said print engine emits a laser beam in accordance with said image reproduction data to

form a latent image, and attaches toner for ~~said~~ a color space to said latent image.

17. (currently amended): ~~An~~ The electrophotographic apparatus according to claim 15,

wherein said print engine emits a laser beam in accordance with said image reproduction data to

form a latent image, and attaches toner for ~~said~~ a color space to said latent image.

18. (currently amended): A recording medium for storing an image processing program

that permits a computer to perform image processing for generating, using input tone data for a

first color space, image reproduction data that express image halftones, said image processing

comprising:

a color conversion process, for performing an interpolation process, for referring to a

color conversion table to convert said input tone data for said first color space into tone data for a

second color space; and

a halftone process for converting said tone data for said second color space into image

reproduction data, by referring to a halftone table that shows the correlation of said tone data for

said second color space and said image reproduction data,

wherein a gamma characteristic A, for said input tone data for said first color space, for

an output density relative to a first tone value for each brightness level of an image corresponds

to a gamma characteristic B, for said halftone table, for an output density relative to a second

tone value for each brightness level of an image.

19. (currently amended): A recording medium for storing an image processing program

that permits a computer to perform image processing for generating, using input tone data for an

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RGB color space, image reproduction data that express tones by using a plurality of printing

dots, said image processing comprising:

a color conversion process, for performing an interpolation process, for referring to a

color conversion table to convert said input tone data for said RGB color space into tone data for

a CMYK color space; and

a halftone process for converting said tone data for ~~said~~ a second color space into image

reproduction data, by referring to a halftone table that shows the correlation of said tone data for

said CMYK color space and said image reproduction data,

wherein, for a gamma characteristic A for an output density relative to a tone value of

said input tone data for said RGB color space, a difference between a ratio for a first RGB tone

area of the change of said output density to the change of ~~an~~ a first input tone value, and a ratio

for a second RGB tone area of the change of said output density to the change of ~~an~~ a second

input tone value, which is lower than said first input tone value for said first input tone area, is

the same as a difference, for ~~said~~ a gamma characteristic B of said halftone table, between a ratio

for a first CMYK input tone area of the change of said output density to the change of ~~an~~ a third

input tone value, and a ratio for a second CMYK input tone area of the change of said output

density to the change of ~~an~~ a fourth input tone value, which is higher than said third input tone

value for said first CMYK input tone area.